

# Ruffed Grouse Drumming Survey

## 2004

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### **Abstract**

Statewide ruffed grouse population indices decreased 14% between 2003 and 2004, based on the number of drumming grouse heard during roadside surveys. Changes in indices to breeding grouse populations varied by region, but the statewide mean number of drums/stop did not change significantly ( $P = 0.12$ ) from 2003 to 2004. Drummer densities on the Sandhill Wildlife Area in Wood County remained unchanged. While drummer densities on the Stone Lake Experimental Area in Oneida County increased slightly from 2003 levels.

### **Methods**

#### **Statewide**

Counts of drumming grouse heard along roadsides were conducted on 116 transects throughout the state in 2004. This roadside survey has been conducted annually since 1964 by DNR wildlife managers, wildlife technicians, foresters, law enforcement personnel, USFS staff, and Ruffed Grouse Society volunteers to determine grouse population trends throughout Wisconsin. A new 10-stop survey on 117 randomly located transects was initiated in 1994 and continued in 2004. One transect which had been accidentally left out of the original survey design was added in Waupaca county in 1999, bringing the statewide total to 118. This year marked the eleventh year that the "new" ruffed grouse surveys were run. As per the change over plan, no "old" drumming routes were run since 1996. Also, "new" routes which had counts of zero for the first three years were not to be run for three years. After that three year period, they were to be run again to confirm that they indeed were still zero. Most of these "zero" routes were run again in 2000 and in 2004.

Procedures for the "new" routes were similar to the earlier survey protocols except for one count instead of two and 10 stops instead of 15. Survey data were entered into the DNR UNIX computer system and summarized using the Statistical Analysis System (SAS).

#### **Research Census Areas**

DNR research personnel have conducted a census of drummers on Sandhill Wildlife Area and Stone Lake since 1968. This survey has provided comparative statistics on population trends and an estimate of drummer density. Searches for males were conducted during favorable weather between 1 April and 10 May. The census on the Sandhill Wildlife Area encompassed 2,020 acres of grouse habitat in the area open to hunting and 1,300 acres within the unhunted portion of the area. The census on the Stone Lake Experimental Area in Oneida County encompassed 3,310 acres of grouse habitat.

## **Results**

### **Statewide**

Responses were received from wildlife managers, wildlife technicians, and other cooperators that helped conduct the survey on 116 survey transects in 2004. This is four more than the total number of transects (112) run in the spring of 2003.

Statewide, ruffed grouse population indices declined in Wisconsin between 2003 and 2004 (Table 1). Survey indices show a decline in drumming grouse in three of the four regions of the state (Fig. 1), but overall densities decreases were not significant ( $P=0.12$ ) during 2003-2004. Transects completed in both 2003 and 2004 were compared to detect population changes. Transects were considered to have changed from last year if the change was greater than two drums per transect. The number of transects with decreased drumming outnumbered by 43 to 24 those that showed increases, with 45 transects unchanged.

Overall, breeding grouse populations declined from 2003 levels. It appeared that populations had leveled off in the state in 2003 and were poised for an increase in 2004. Brood data in 2003 had shown an increase from previous years, and it appeared that grouse numbers would increase. Previous grouse population lows have been in "4" years 2 of the last 30 years, 1974 and 1994 (Fig. 2). The decline in 2004 will hopefully be the bottom of the population cycle.

Survey conditions for 2004 were very similar to those in 2003. Surveyors rated the overall conditions as "excellent" on 51% of the transects, while 58% rated the overall conditions as "excellent" in 2003. Surveyors rated the conditions as "Fair", the lowest available weather condition rating, 13% of the time in 2004 compared to 4% in 2003. The percent of observers rating the conditions as "excellent" was still below the highest level of 68% recorded in 1998. Survey conditions do influence drumming activity and may cause grouse numbers to be over or under estimated.

### **Research Census Areas**

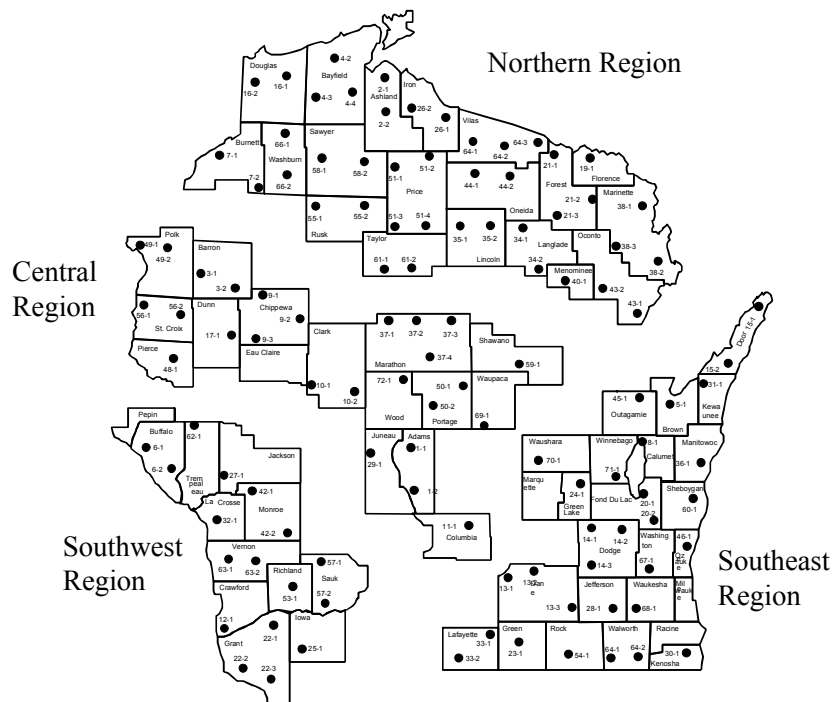
Grouse numbers on both of the research census areas were mixed in 2004 (Table 2). The Sandhill Wildlife Area had no change from last years estimate (47 birds in 2003 and 2004). The unhunted portion of the wildlife area (1,300 acres) decreased by 6 birds in 2004 (27 vs. 21). The hunted portion of the wildlife area (2,020 acres) increased from 2003 levels, with 26 birds counted in 2004, up from 20 in 2003. The Stone Lake census area had an increase of 10% (80 birds in 2003 vs. 88 birds in 2004) in 2004. The survey technique used to measure grouse densities on both of these areas is different than that used on the statewide survey. Any comparison of these results to statewide totals should be done cautiously.

**Table 1.** *Ruffed Grouse drumming results 2003-2004, drums per stop (routes run), % change, and number of routes with a change of greater than 2 drums per route from 2003 levels.*

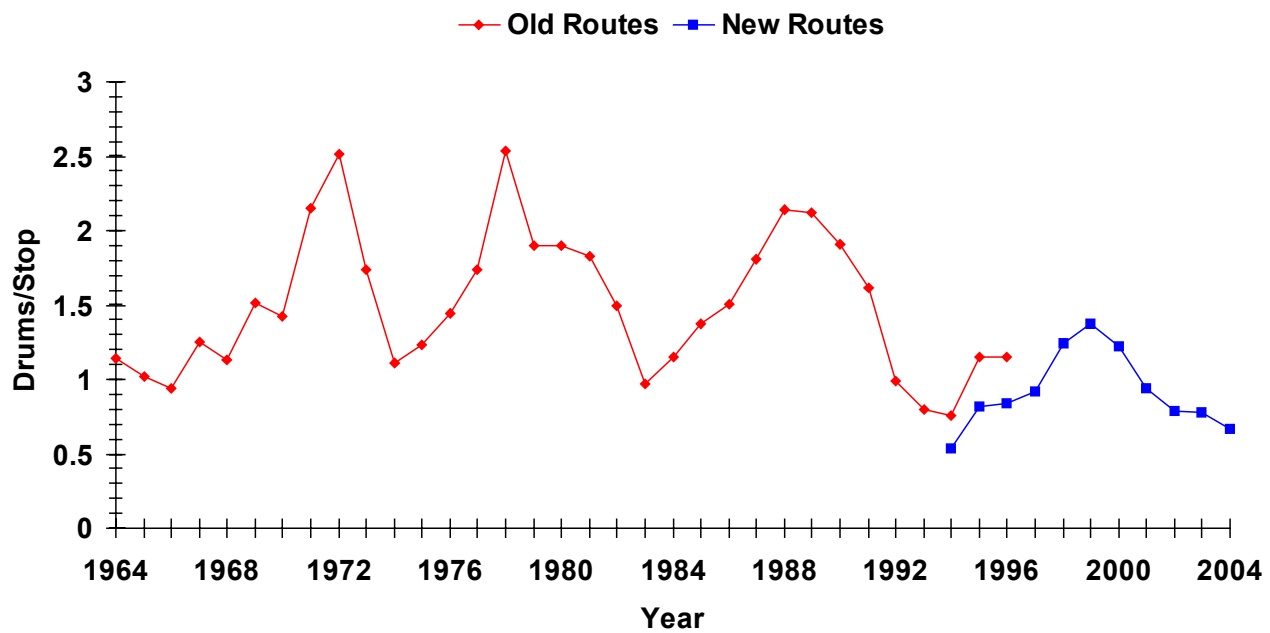
Region	Drums/Stop 2003 (routes run)	Drums/Stop 2004 (routes run)	% Change	# of Decreasing Routes	# of Increasing Routes	# of Routes with No Change
Central	0.86 (24)	0.76 (26)	-12%	10	6	8
Northern	1.32 (43)	1.10 (43)	-17%	25	11	7
Southeast	0.05 (28)	0.06 (30)	20%	1	2	25
Southwest	0.52 (17)	0.50 (17)	-4%	7	5	5
<b>Statewide</b>	<b>0.78 (112)</b>	<b>0.67 (116)</b>	<b>-14%</b>	<b>43</b>	<b>24</b>	<b>45</b>

**Table 2.** *Drummer densities on the DNR research census areas, 2003-2004.*

Area	No. of Drummers (No./100A)	
	2003	2004
Sandhill Hunted (2,020 Acres)	20 (1.0)	26 (1.3)
Sandhill Unhunted (1,300 Acres)	27 (2.1)	21 (1.6)
Stone Lake Exp. Area (3,310 Acres)	80 (2.4)	88 (2.7)



**Figure 1.** *Ruffed grouse drumming regions with transect starting points.*



**Figure 2.** *Mean number of drums/stop on ruffed grouse drumming routes, 1964-2004.*